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(54) **NITROGEN-OXIDE GAS SENSOR WITH LONG SIGNAL STABILITY**

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See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides a nitrogen-oxide gas sensor that is able to measure nitric oxide and nitrogen dioxide at the same time and ensure measurement accuracy and long stability. For these purposes, the nitrogen-oxide gas sensor includes: an oxide ion conductive solid electrolyte; a primary film that contacts the solid electrolyte and is made of a p-type semi-conductor metal oxide; a secondary film that contacts the solid electrolyte and is made of a p-type semiconductor metal oxide; an n-type semiconductor metal oxide that is included in at least one of the primary and secondary films; a power source that applies electric power to the primary and secondary films by electrically connecting a primary node to the primary film and a secondary node to the secondary film; and a measurement unit that measures the electric potential difference between the primary and secondary nodes.

14 Claims, 4 Drawing Sheets

